

Toyota Logistics Services

Returnable Packaging for Floor Mats

Toyota Logistics Services processes 187,000 vehicles annually at Terminal 4 in North Portland. New Toyota cars and trucks are outfitted with extras (such as security systems and audio installations) and cleaned if necessary. Then they are loaded onto railcars and trucks for transport to as many as 23 states.

One of the “extras” added to some vehicles are custom floor mats. Custom floor mats are shipped to the Portland Vehicle Distribution Center (VDC) from a supplier, Viam.

Previously, floor mats were packaged in single-use corrugated boxes called masterpack cartons. Each masterpack carton held 24 sets of floor mats and was shipped on its own wooden pallet. The floor mats were shipped in large lots to the Portland VDC as needed. Once emptied at the Portland VDC, waste cartons were sent to a paper mill to be recycled. Pallets were collected by a recycler who resold pallets of higher quality and salvaged lower quality pallets for parts or had them ground up for use as wood chips.

In August of 2003, Viam and Toyota Logistics Services launched a returnable packaging program for floor mats for Toyota’s West Coast VDCs in Portland and Long Beach. Toyota purchased 80 large plastic returnable containers at a cost of approximately \$13,000.

Each returnable container holds sixty sets of floor mats. The containers are shipped directly from Viam to the Portland VDC. Once emptied, the sides of the crates are collapsed, and the crates are stacked and transferred to a Toyota parts distribution center a few miles away, where they are consolidated with other reusable containers. The containers are then backhauled to a larger Toyota distribution center in Los Angeles. Finally, they are transferred back to Viam. In most cases, the containers are backhauled in trucks that would otherwise be returning empty.

Because Viam no longer purchases pallets or masterpack cartons for Toyota VDCs in Portland and Long Beach, it was able to pass along cost savings to Toyota in the form a reduced unit price for floor mats.

Before
(Expendable Packaging)



After
(Returnable Packaging)



Land Quality Division
Solid Waste Policy
and Program
Development Section
811 SW 6th Avenue
Portland, OR 97204
Phone: (503) 229-5913
1 (800) 452-4011
Fax: (503) 229-6977
www.oregon.gov/DEQ/

Updated: 07/14/05
David Allaway
09-LQ-032

Annual savings to Toyota (for Portland and Long Beach combined) are estimated as follows:

Annual procurement savings (gross)	\$28,000
Annual container costs (amortized over 4 years)	\$3,500
Net annual savings	\$24,500

Environmental benefits include a reduction in corrugated use of 17,000 pounds per year and a reduction in wood pallet use by 37,000 pounds per year. While a small amount of extra labor is required to manage the empty crates during their return trip to Viam, this is offset by labor savings in waste corrugated and pallet management.

Alternative formats (such as large type, Braille) of this document can be made available. Contact DEQ's Office of Communications & Outreach, Portland, at (503) 229-5317